



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,899	03/04/2004	Yoshihisa Yonczawa	YONE3013/EM	4664
23364	7590	10/27/2005	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			WON, BUMSUK	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 10/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/791,899	Applicant(s) YONEZAWA ET AL.	
	Examiner Bumsuk Won	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-10 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1 Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2 The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Electron tube having linear damper.

Claim Objections

3 Claims 9 and 10 are objected to because of the following informalities: The term “the linear member” is not disclosed in their parent claims. For examining purpose, the term “the linear member” will be assumed to be “the primary linear member”. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2879

4 Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Marsh (US 6,135,620).

Regarding claim 1, Marsh discloses an electron tube comprising: a vessel (figure 5, 84); a primary linear member (figure 5, 72) installed in the vessel; an electrode (figure 2, two ends of 72) disposed in the vessel (figure 5, 84); a first auxiliary linear member (figure 5, 74, prong portion on the right hand side of the figure) and a second auxiliary linear member (figure 5, 74, prong portion on the left hand side of the figure) disposed at different heights (figure 5, the height from the back of the housing, the left and right prongs have different heights) to interpose the primary linear member therebetween (figure 5, 72 is between 74); and a plurality of fixing members (figure 2, 38), formed at a single substrate (figure 5, 82) for constituting a part of the vessel (figure 5, 84), for fixing end portions of the first auxiliary and the second auxiliary linear member thereto (figure 5).

Regarding claim 2, Marsh discloses the first and the second auxiliary linear member are fixed to the fixing members by embedding at least parts of the end portions thereof therein (figure 2, the ends of the prongs are embedded in the tube-like members).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5 Claims 3-7, and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh (US 6,135,620) in view of Kawasaki (US 2003/0030378).

Regarding claim 3, Marsh further discloses a number of layers (figure 2, 38, bottom black part) formed at the substrate.

Marsh does not disclose the layer formed at the substrate is metal layer, and the fixing members are fixedly attached to the metal layers by an ultrasonic bonding method, and the end portions of the first and the second auxiliary linear member are fixedly attached to the fixing members by the ultrasonic bonding method.

Kawasaki discloses an electron tube comprising, in part, a number of metal layers (figure 1A, 14 and 15) formed at the substrate (figure 1A, 10), and wherein the fixing members are fixedly attached to the metal layers by an ultrasonic bonding method, and the end portions of the first and the second auxiliary linear member are fixedly attached to the fixing members by the ultrasonic bonding method (paragraphs 3 and 15), for the purpose of fixing the end portion (paragraph 15, line 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a number of metal layers formed at the substrate, and wherein the fixing members are fixedly attached to the metal layers by an ultrasonic bonding method, and the end portions of the first and the second auxiliary linear member are fixedly attached to the fixing members by the ultrasonic bonding method disclosed by Kawasaki in the electron tube disclosed by Marsh, for the purpose of fixing the end portion.

Regarding claim 4, Marsh discloses the first and the second auxiliary linear member (figure 5, 74) are arranged in a direction intersecting the primary linear member (figure 5, 72), and wherein the fixing members include spacer pads (figure 2, 38, top white part) determining heights of the auxiliary members (figure 5, 74), the spacer pads being fixed to the substrate (figure 5, 82) via metal layers (figure 2, 38, bottom black part) formed thereat, and one end of the first auxiliary member and one end of the second auxiliary member are fixed to one spacer pad (figure 2, 38, top white part is connected to both auxiliary members).

Regarding claim 5, Marsh discloses said one end of the first auxiliary linear member and said one end of the second auxiliary linear member are fixed at different locations of said one spacer pad (figure 2).

Regarding claim 6, Marsh discloses the first and the second auxiliary linear member are fixed to a same spacer pad to face each other (figure 2).

Regarding claim 7, Marsh discloses the first and the second auxiliary linear member (figure 5, 74) are arranged in a direction intersecting the primary linear member (figure 5, 72), and wherein the fixing members include spacer pads (figure 2, tube-like members that are wrapping around each ends of the auxiliary linear members) determining heights of the auxiliary members (figure 5, 74), the spacer pads being fixed to the substrate (figure 5, 82) via metal layers (figure 2, 38, bottom black part) formed thereat, and end portions of the auxiliary member

are fixed to different spacer pads (figure 2, there are two tube-like members that are wrapping around each ends of the auxiliary linear members).

Regarding claim 9, Marsh discloses further comprising a layer (figure 2, 38, bottom black part) formed at the substrate (figure 5, 82), and wherein the first and the second auxiliary linear member (figure 5, 74) are arranged in a direction intersecting the linear member (figure 5, 72), and wherein a fixing member (figure 2, 38, top white part and two tube-like member that fasten the end portions of auxiliary linear members) for fixing one end portion of the first auxiliary linear member serves as a spacer member of the second auxiliary linear member for determining a height thereof (figure 2, the tube-like member is fixed to the top white part), said fixing member being fixed to the layer.

Marsh does not disclose the layer is metal layer.

Kawasaki discloses an electron tube (figure 1A) further comprising a metal layer (figure 1A, 14 and 15) formed at the substrate (figure 1A, 10), for the purpose of connecting with cathode filaments (paragraph 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a metal layer formed at the substrate disclosed by Kawasaki in an electron tube disclosed by Marsh, for the purpose of connecting with cathode filaments.

Regarding claim 10, Marsh discloses said one fixing member (figure 2, 38, top white part) and a fixing member (figure 2, 38, tube-like member that fasten the auxiliary linear

Art Unit: 2879

member) for fixing one end portion of the second auxiliary linear member are fixed to the layer (figure 2, 38, bottom black part).

Marsh does not disclose the layer is metal layer.

Kawasaki discloses an electron tube (figure 1A) further comprising a metal layer (figure 1A, 14 and 15) formed at the substrate (figure 1A, 10), for the purpose of connecting with cathode filaments (paragraph 24).

The reason for combining is the same as for claim 9 above.

Allowable Subject Matter

6 Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 8, the prior art of record neither shows nor suggest an electron tube comprising a vessel, a primary linear member; first and second auxiliary linear members as claimed, specifically further wherein the first auxiliary linear members of a first height and the second auxiliary linear members of a second height are alternately disposed along a length direction of the primary linear member.

Contact information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bumsuk Won whose telephone number is 571-272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bumsuk Won
Patent examiner


JOSEPH WILLIAMS
PRIMARY EXAMINER